

FEB 05 2007

APPLICANT(S): XIA, Bo et al.
SERIAL NO.: 10/815,311
FILED: March 31, 2004
Page 2

AMENDMENTS TO THE CLAIMS

Please add or amend the claims to read as follows, and cancel without prejudice or disclaimer to resubmission in a divisional or continuation application claims indicated as cancelled:

1. (Currently Amended) A method of encoding information by a wireless communication device, communicating information, the method comprising:

encoding information into one or more variable length low density parity check (LDPC) codewords;

identifying a length of the information to be send with the one or more codewords; and

transmitting the length of the information in a header of a data unit.

2. (Original) The method of claim 1 wherein encoding information into one or more variable length LDPC codewords comprises:

selecting a parity check matrix from a plurality of different sized matrices, the selected parity check matrix having a size corresponding to a size of information to be encoded.

3. (Currently Amended) The method of claim 1 wherein encoding information into one or more variable length LDPC codewords comprises:

adjusting a size of a default parity check matrix by at least one of puncturing one or more parity bits ~~or~~ and deleting one or more information bits of the default parity check matrix.

4. (Original) The method of claim 3 wherein deleting one or more information bits comprises:

deleting one or more columns of the default parity check matrix.

5. (Original) The method of claim 4 wherein deleting one or more columns includes selecting the one or more columns having a lowest bit weight.

APPLICANT(S): XIA, Bo et al.
SERIAL NO.: 10/815,311
FILED: March 31, 2004
Page 3

6. (Original) The method of claim 1 further comprising:
transmitting the one or more variable length codewords via an air interface
using orthogonal frequency division multiplexing (OFDM).
7. (Original) The method of claim 1 further comprising:
sending one or more of the variable length codewords to a network device,
wherein the network device comprises a wireless local area network (WLAN)
access point (AP).
8. (Currently Amended) The method of claim 1 further comprising sending one or
more of the variable length codewords to a network device ~~wherein the network
device comprises a mobile device.~~
9. (Currently Amended) A method of ~~communicating~~ decoding information by a
wireless communication device, the method comprising:
receiving a data unit including one or more variable length low density parity
check (LDPC) codewords from a network device; and
decoding the one or more variable length LDPC codewords by decoding a
length of the information from a header of the data unit.
10. (Original) The method of claim 9 wherein decoding the one or more variable
length LDPC codewords comprises:
decoding a codeword based on a parity check matrix having a size
corresponding to a length of the codeword.
11. (Currently Amended) The method of claim 9 wherein decoding the one or more
variable length LDPC codewords comprises:
decoding a codeword based on a parity check matrix having at least one of
punctured parity bits or and deleted information bits.
12. (Currently Amended) A wireless communication device, comprising:

APPLICANT(S): XIA, Bo et al.
SERIAL NO.: 10/815,311
FILED: March 31, 2004
Page 4

a low density parity check (LDPC) encoder configured to encode information into varying length low density parity check (LDPC) codewords using different sized parity check matrices by identifying a length of the information to be send with the one or more codewords; and

a transmitter to transmit the length of the information in a header of a data unit.

13. (Currently Amended) The wireless communication device of claim 12 wherein the different sized parity check matrices are selected from a memory based on a length of information to encode in each codeword.

14. (Currently Amended) The wireless communication device of claim 12 wherein the different sized parity check matrices are derived from a default matrix by at least one of puncturing one or more parity bits ~~or~~ and deleting one or more information bits of the default matrix.

15. (Currently Amended) The wireless communication device of claim 14 wherein deleting one or more information bits comprises deleting one or more matrix columns have a lowest bit weight.

16. (Canceled).

17. (Canceled).

18. (Canceled).

19. (Canceled).

20. (Canceled).

21. (Currently Amended) A The wireless communication device of claim 12 further comprising:

a low density parity check (LDPC) decoder configured to decode varying length low density parity check (LDPC) codewords of a received block code using different sized parity check matrices.

22. (Canceled).

APPLICANT(S): XIA, Bo et al.
SERIAL NO.: 10/815,311
FILED: March 31, 2004
Page 5

23. (Canceled).

24. (Canceled).

25. (Currently Amended) A wireless communication system comprising:

a mobile unit including a radio frequency (RF) transceiver, and an encoder communicatively coupled to the RF transceiver and adapted to encode information into one or more variable length low density parity check (LDPC) codewords and a medium access controller to generate a medium access control service data unit (MSDU), wherein the MSDU includes a length of a codeword information filed.

26. (Currently Amended) The wireless communication system of claim 25 wherein the encoder is adapted to encode variable length LDPC codewords using a parity check matrix having a size corresponding to a length of information for each codeword.

27. (Currently Amended) The wireless communication system of claim 26 wherein the parity check matrix is selected from one of a plurality of stored matrices having different sizes.

28. (Currently Amended) The wireless communication system of claim 26 wherein the size of the parity check matrix is adjusted by at least one of puncturing parity bits ~~or~~ and deleting information bits of a default sized parity check matrix.

29. (Currently Amended) The wireless communication system of claim 25 ~~wherein the communication system~~ comprises a wireless local area network (WLAN) access point (AP).

30. (Currently Amended) The wireless communication system of claim ~~[[18]]~~ 25 further comprising one or more antennas coupled to the RF transceiver.